

# PATENT SPECIFICATION

DRAWINGS ATTACHED

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## COMPLETE SPECIFICATION

### A Lifting Grab of the kind for Lifting Single Articles

We, LIFTING GEAR PRODUCTS (ENGINEERING) LIMITED, of Goliath Works, Petre Street, Sheffield, 4, a Company, organised according to the laws of Great Britain and Northern Ireland, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to a lifting grab of the kind for lifting single articles and hereinafter referred to as a lifting grab of the kind described comprising a pair of jaws pivoted together scissors-fashion intermediate their length, the shank ends of the jaw members being pivoted each to one end of one of a pair of links (or short chains), the other ends of which are pivoted together and attached to a lifting chain such that, on a pull being applied to the lifting chain, a force is applied to each jaw to cause said jaws to close together and grip a body placed between them.

It has been found in practice that the hold of the jaws of a load is less secure when they are in their nearly closed position than when they are more widely separated by the load and it is the object of the present invention to provide means obviating or reducing this tendency.

According to the present invention, in a lifting grab of the general kind described, the shank end of one jaw is attached direct to the lifting chain, and the shank end of the other jaw is attached to a short chain having a ring or loop at its free end adapted to encircle and slidably accommodate the lifting chain.

Referring to the drawings filed herewith which illustrate one form of lifting grab made in accordance with the present invention,

Fig. 1 is a detailed drawing showing the construction, whilst

Figs. 2 to 6 drawn to a smaller scale illustrate the grab in use on a variety of loads.

As will be seen from Fig. 1 of the drawing, the grab comprises a pair of jaws 2 and 4 pivoted together scissors fashion by a bolt 6. The shank end of the jaw 2 is connected by an attached shackle 10 to the lifting chain 12. The jaw 2 is bifurcated for an intermediate length to accommodate the jaw 4 which latter is connected at its shank end by shackle 16 to a short length of chain 18 which terminates at its other end in a ring or loop 20 which is of sufficiently large internal diameter to slide freely over the links of the lifting chain 12. In order to prevent the ring 20 from sliding too high up the lifting chain a large link 22 is inserted in the lifting chain. In order to limit the extent to which the jaws 2 and 4 are permitted to close, a stop 24 is provided on the jaw 2 which extends across the bifurcation to lie in the path of the jaw 4. As will be seen, both jaws end in claws adapted to engage the load.

In Fig. 1 of the drawing the jaws are shown fully opened to engage the maximum sized load for which it is intended.

In operation, as will be seen from Figs. 2 to 6, the jaws are opened and placed one on each side of the load, ring 20 sliding down the chain 12 under its own weight until it is nested between the lowest links the ring 20 can conveniently reach. The lifting chain is then hauled in.

The lifting chain 12 changes direction where it passes through the ring 20. If the ring 20 should not slide down properly it may be assisted, but we have found that with the arrangement shown this action takes place automatically and in the result the

[Price 4s. 6d.]

two pieces of chain between the ends of the jaws and the ring 20 assume in general substantially the same angle to each other irrespective of the angle of the jaws to each other so that by this arrangement a secure grip of the jaws is obtained even when nearly closed.

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WHAT WE CLAIM IS:—

1. A lifting grab of the kind described wherein the shank end of one jaw is attached direct to the lifting chain and the shank end of the other jaw is attached to a chain having a ring or loop at its other end adapted to encircle and slidably accommodate the lifting chain.

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2. A lifting grab according to Claim 1

wherein the lifting chain is provided with an enlarged link to limit the upward sliding movement of the said ring or loop.

3. A lifting grab according to Claim 1 or Claim 2 wherein the jaws are provided with limit stops to limit their closing movement.

4. A lifting grab constructed, arranged and adapted to operate substantially as described with reference to and as illustrated in the accompanying drawings.

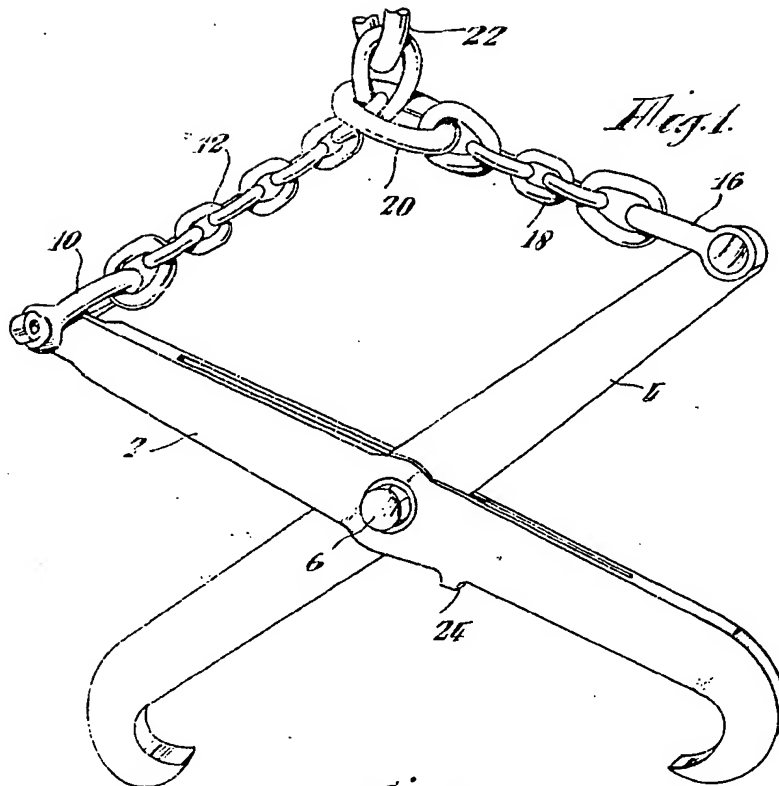
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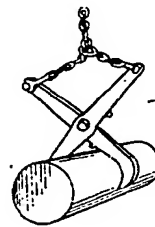
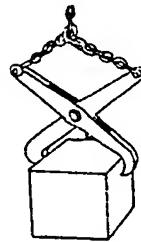
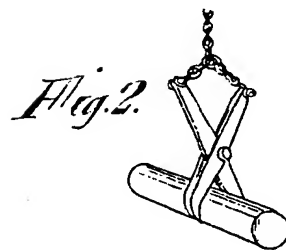
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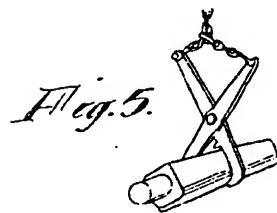
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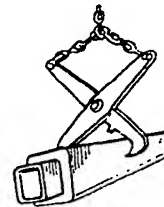
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



*Fig. 6.*